



Installation Manual **CRESCENDO/L2 G3**

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Installation Manual
Crescendo™/L2 Processor Upgrade Cards
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Manual Number: Z-BG3-MNL-E
Release: v 1.0
Printed in the U.S.A.

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PREFACE

This manual explains how to install the hardware and software for Crescendo/L2 processor upgrade cards so that you can accelerate your Power Macintosh®.

This documentation assumes you have a working knowledge of the Macintosh® and its operating conventions. If you are unfamiliar with the Macintosh, see your computer's documentation.

Compatible Macintosh Models

At this printing, the following Power Macintosh and Mac® OS compatible computers can be upgraded with Crescendo/L2 processor upgrade cards:

- Power Macintosh 4400, 5400, 5500, 6400, 6500, 7220
- Performa 5400, 5420, 5430, 5440, 6360, 6400, 6410, 6420
- 20th Anniversary Macintosh
- Power Computing PowerBase
- Motorola® StarMax 3000, 4000, 5000, 5500

Note:

- Not all cards work in all machines; check the package for definitive compatibility.
- The internal 28.8K GeoPort Express modem is not compatible with a G3 processor; however, an external modem works fine.

BEFORE YOU GET STARTED

Check the Read Me File

For the most current information regarding this installation, check the Read Me notes on the Crescendo/Encore Install diskette packaged with your product.

Visit our Website

The latest software updates and online support files are available from the Sonnet website at <http://www.sonnettech.com>.

Take Precautionary Measures

We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent the components from being damaged by static electricity. Always work in an area free of static electricity and avoid carpeted areas. Handle processor upgrade cards by their edges and avoid touching connector traces and component pins.

Familiarize Yourself with the Instructions

Please familiarize yourself with the instructions in this manual before beginning the installation. If you feel you are unable to install the computer hardware, contact a qualified computer technician.

As you read the instructions you may notice that your Sonnet processor upgrade card may differ from those pictured.

POWER MACINTOSH 4400 AND 7220

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into Power Macintosh 4400 and 7220 computers.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium head Phillips screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove case cover from computer
- 5) If installed, remove Level 2 cache card
- 6) Reset CUDA switch on logic board
- 7) Install Crescendo/L2 card into L2 Cache Slot
- 8) Replace case cover onto computer
- 9) Affix the *Powered by Sonnet* label to front of computer
- 10) Turn on your newly upgraded computer
- 11) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

Power Macintosh 4400 and 7220 Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your Power Macintosh by first loosening the three security screws (**Figure 1**) on the back of the case with a medium head Phillips screwdriver.

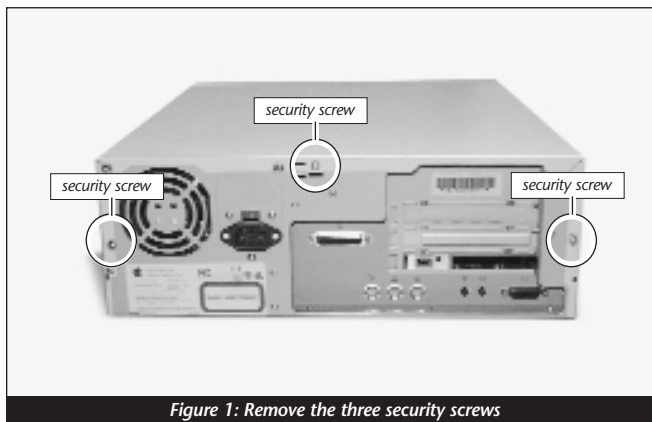


Figure 1: Remove the three security screws

4. Gently slide the case cover off the computer (**Figure 2**).

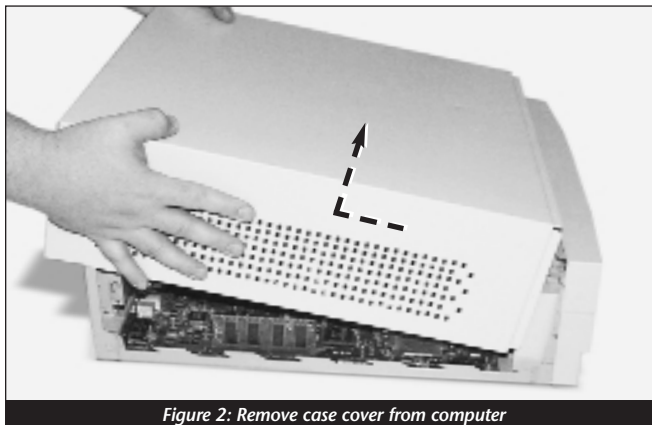
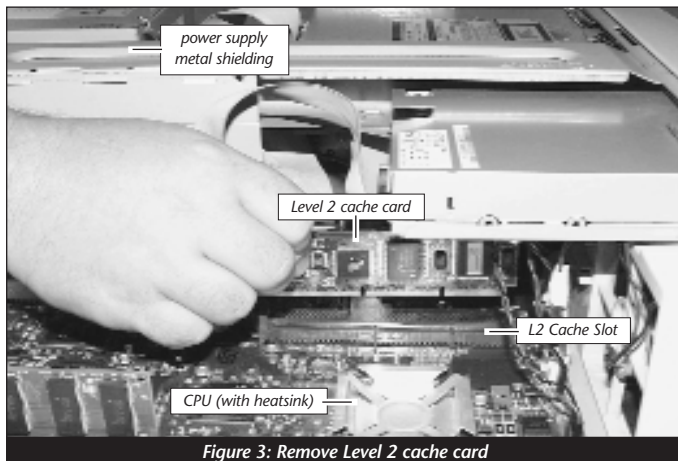


Figure 2: Remove case cover from computer

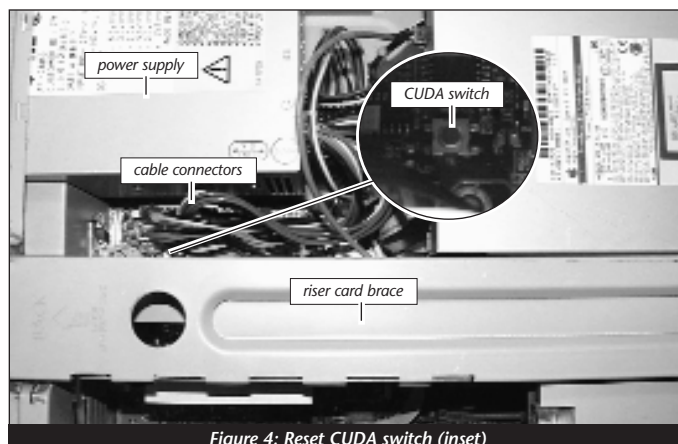
Remove Level 2 Cache Card

1. Identify the internal components of your Power Macintosh.
Touch the power supply metal shielding (*Figure 3*) to discharge any potential damaging static electricity.
2. If installed, remove the Level 2 cache card (*Figure 3*) located next to the CPU.



Reset CUDA Switch

Reset the CUDA switch on the logic board (*Figure 4*). It is located underneath the riser card brace, next to the power supply and cable connectors. You may need to carefully move the cables aside to gain access to the CUDA switch. Using a nonmetal ballpoint pen, press down on the switch. Resetting this switch ensures that a processor upgrade card installed into your computer is recognized at the next startup.



Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package, making sure to handle the card by the edges (*Figure 5*). Your card may differ from what is pictured below.

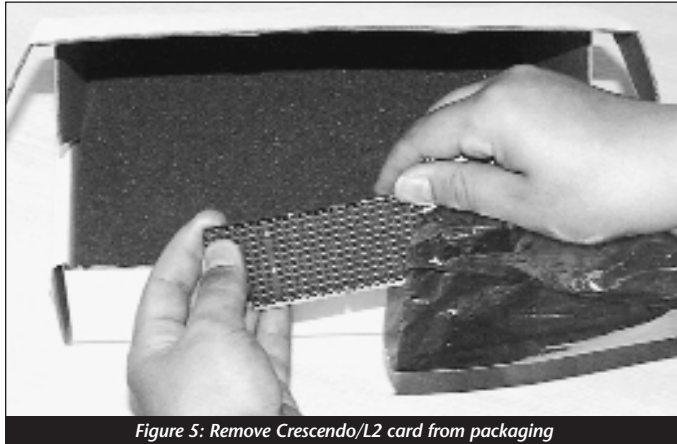


Figure 5: Remove Crescendo/L2 card from packaging

2. Install the Crescendo/L2 card into the L2 Cache Slot (*Figure 6*). **Firmly** press down until the card is completely seated.

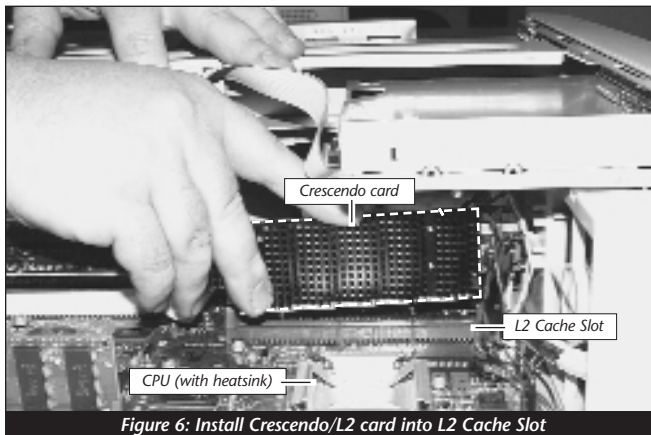
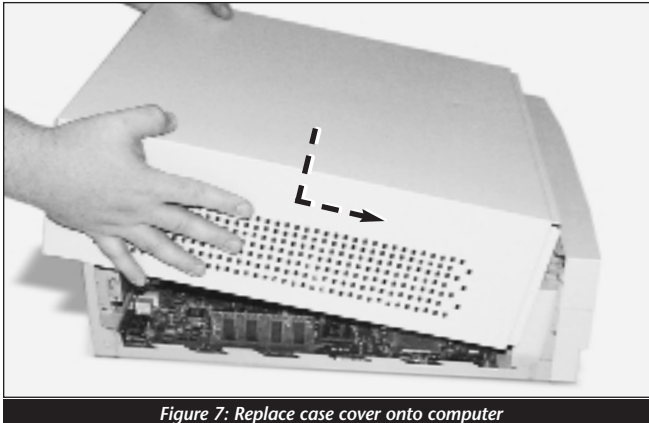


Figure 6: Install Crescendo/L2 card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Replace Case Cover Onto Computer

1. Replace the case cover onto your computer (*Figure 7*).



2. Replace and tighten the three security screws (*Figure 8*).



3. Return your Power Macintosh to your computing area and reconnect the power and peripheral cables to the computer.
4. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

POWER MACINTOSH 5400, 5500, AND PERFORMA 54XX

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into Power Macintosh 5400, 5500, and Performa 54XX computers.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium Phillips screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove logic board from computer
- 5) If installed, remove Level 2 cache card
- 6) Reset CUDA switch on logic board
- 7) Install Crescendo/L2 card into L2 Cache Slot
- 8) Reinstall logic board into computer
- 9) Affix the *Powered by Sonnet* label to front of computer
- 10) Turn on your newly upgraded computer
- 11) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

Power Macintosh 5400, 5500, and Performa 54XX Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

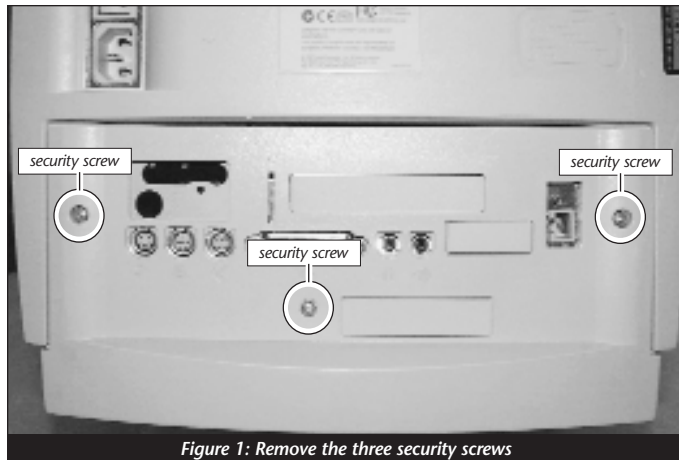
Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.

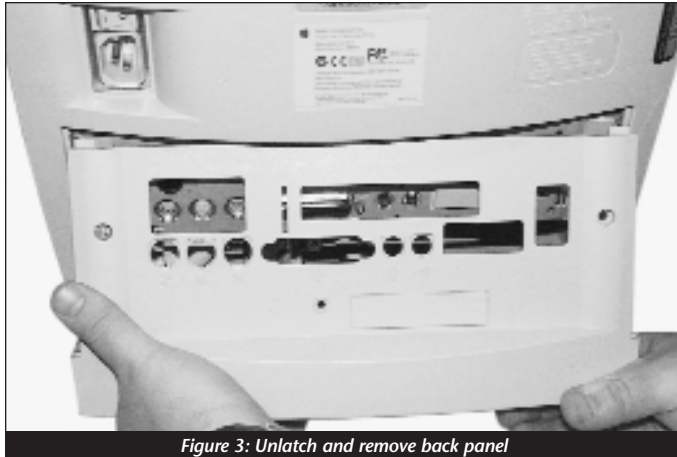
3. Open your Power Macintosh by first loosening the three security screws on the back of the case (**Figure 1**) with a medium Phillips screwdriver.



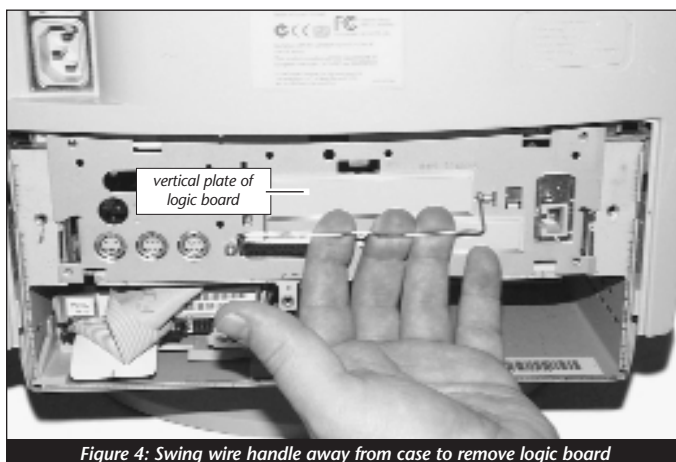
4. Note the two back panel latches underneath the case (**Figure 2**). You will need to unlatch them when removing the back panel from the computer.



5. Remove the back panel from the computer by unlatching it from the case (*Figure 3*).



6. Prior to removing the logic board from the computer, touch the metal vertical plate (*Figure 4*) to which the logic board is attached to discharge any potential damaging static electricity.
7. Swing the wire handle out from its original position (*Figure 4*) to remove the logic board from the computer.



8. Slide the logic board out of the computer (*Figure 5*) and set it aside.

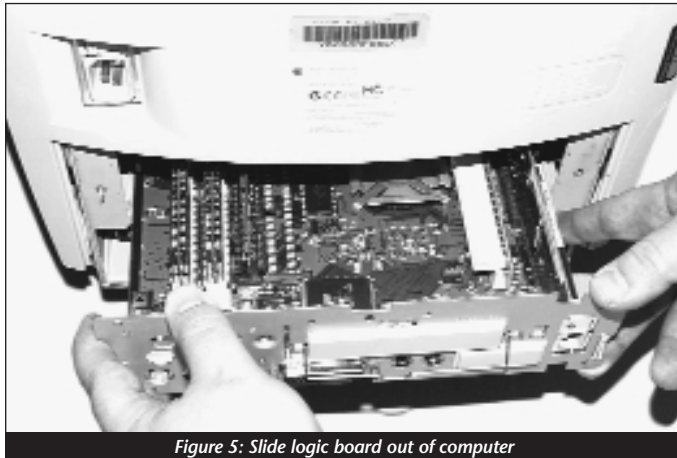


Figure 5: Slide logic board out of computer

9. Unpack everything you will need from the packaging box that contains the Crescendo/L2 card. Close the box. The box will be used as a relatively soft installation surface to prevent any damage to components on the bottom of the logic board during installation.
10. Place the logic board on the box (*Figure 6*).

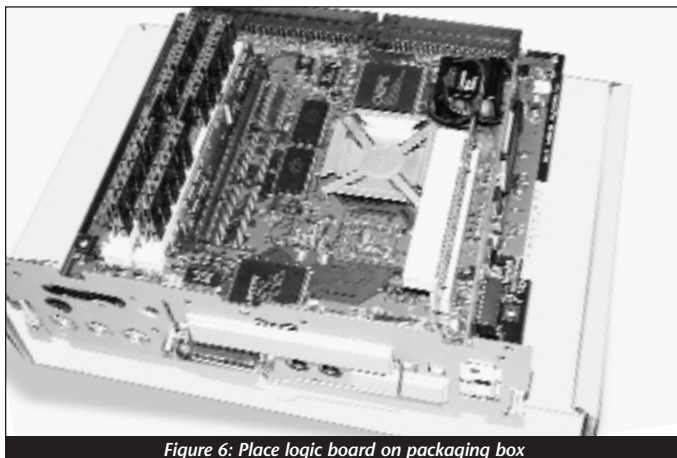
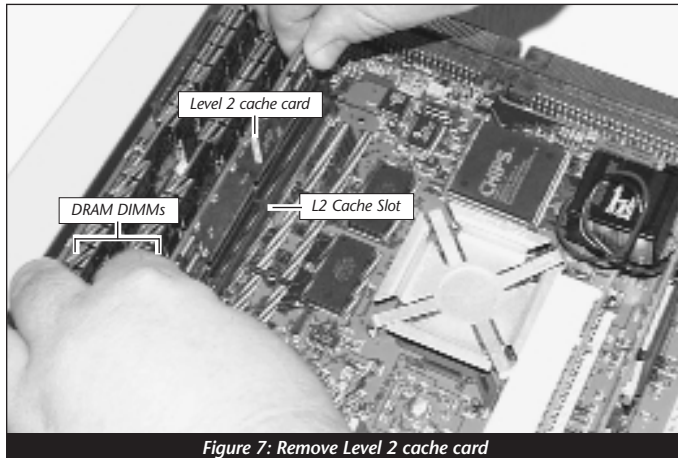


Figure 6: Place logic board on packaging box

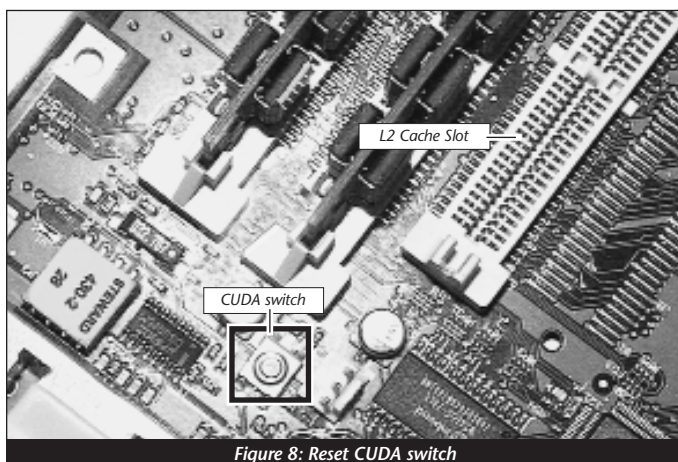
Remove Level 2 Cache Card

If installed, remove the Level 2 cache card located next to the two larger slots that contain the DRAM (memory) DIMMs (*Figure 7*).



Reset CUDA Switch

Reset the CUDA switch on the logic board (*Figure 8*). It is located directly next to the L2 Cache Slot. Resetting this switch ensures that a processor upgrade card installed into your computer is recognized at the next startup.



Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package, making sure to handle the card by the edges (*Figure 9*). Your card may differ from what is pictured below.

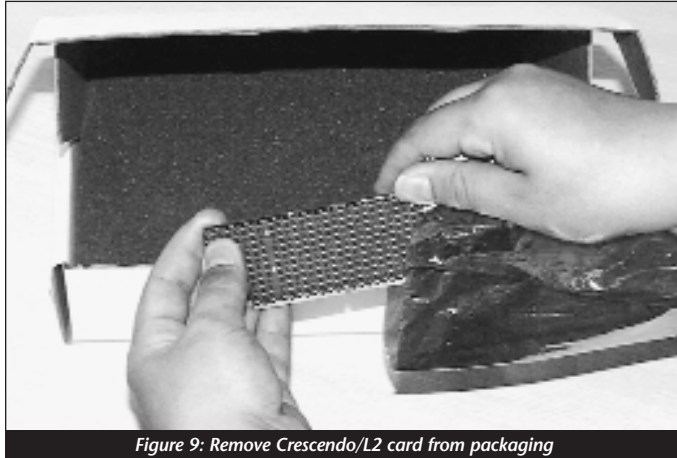


Figure 9: Remove Crescendo/L2 card from packaging

2. Install the Crescendo/L2 card into the L2 Cache Slot (*Figure 10*). Firmly press down until the card is completely seated.

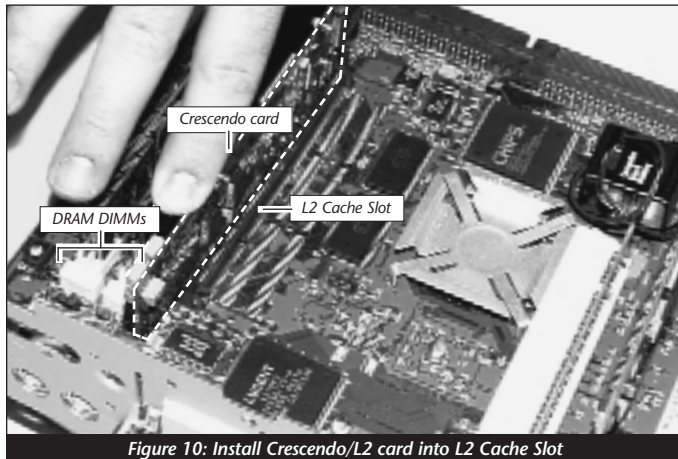


Figure 10: Install Crescendo/L2 card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Reinstall Logic Board Into Computer

1. Slide the logic board into the computer (*Figure 11*). Make certain the logic board slides into the inner guides (*Figure 11, inset*) of the computer's case.

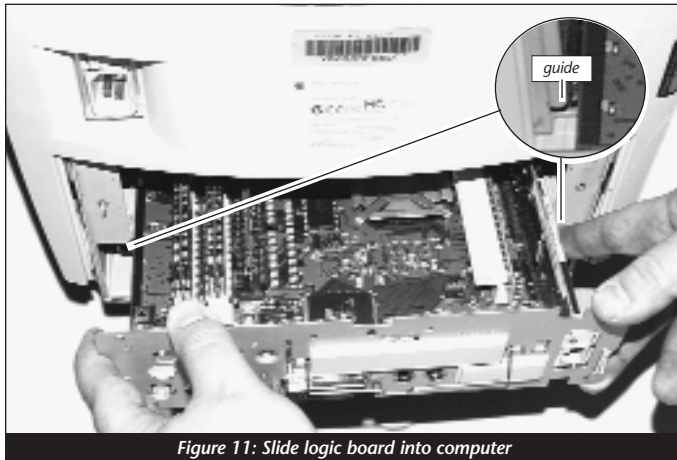


Figure 11: Slide logic board into computer

2. Raise and secure the wire handle (*Figure 12*).

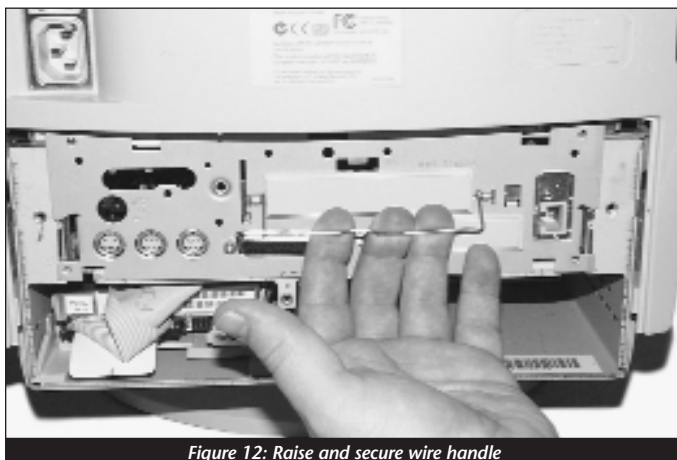


Figure 12: Raise and secure wire handle

3. Replace the back panel (*Figure 13*).

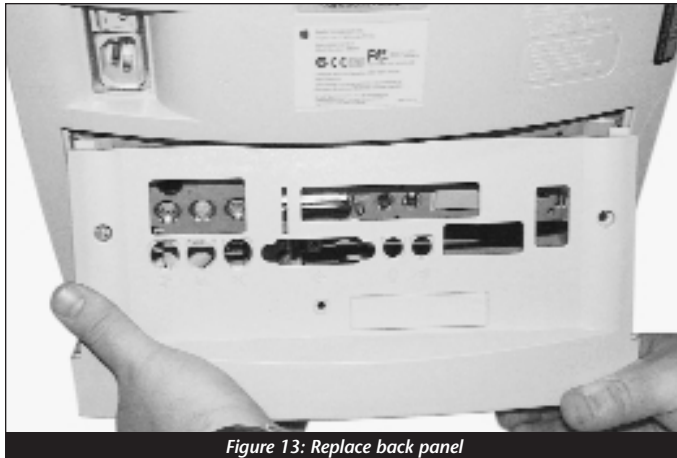


Figure 13: Replace back panel

4. Replace and tighten the three security screws on the back of the case (*Figure 14*).

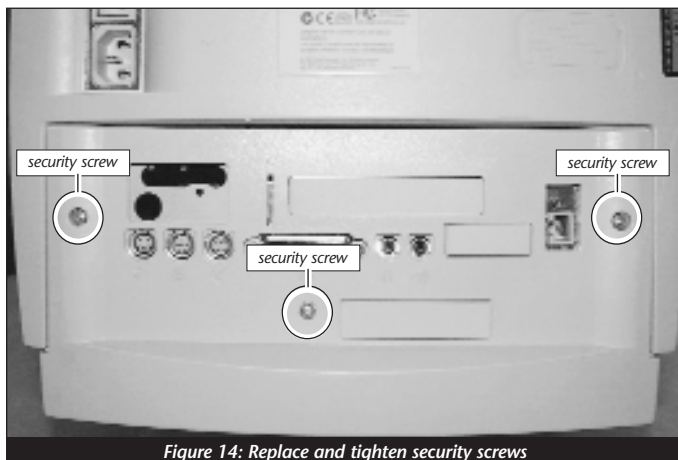


Figure 14: Replace and tighten security screws

5. Return your Power Macintosh to your computing area and reconnect the power and peripheral cables to the computer.
6. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

POWER MACINTOSH 6360

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into a Power Macintosh 6360 computer.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium Phillips screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove logic board from computer
- 5) If installed, remove Level 2 cache card
- 6) Reset CUDA switch on logic board
- 7) Install Crescendo/L2 card into L2 Cache Slot
- 8) Reinstall logic board into computer
- 9) Affix the *Powered by Sonnet* label to front of computer
- 10) Turn on your newly upgraded computer
- 11) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

Power Macintosh 6360 Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.

3. Open your Power Macintosh by first unlatching the back panel from the rear of the computer (*Figure 1*).

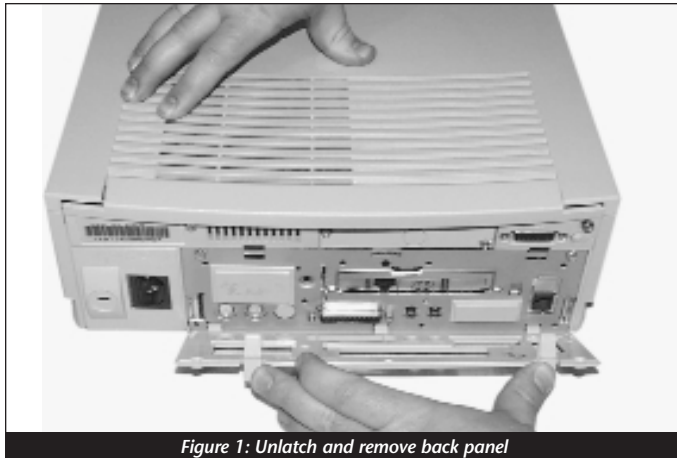


Figure 1: Unlatch and remove back panel

4. Prior to removing the logic board from the computer, touch the metal vertical plate (*Figure 2*) to which the logic board is attached to discharge any potential damaging static electricity.
5. Remove the two security screws with a medium head Phillips screwdriver (*Figure 2*).

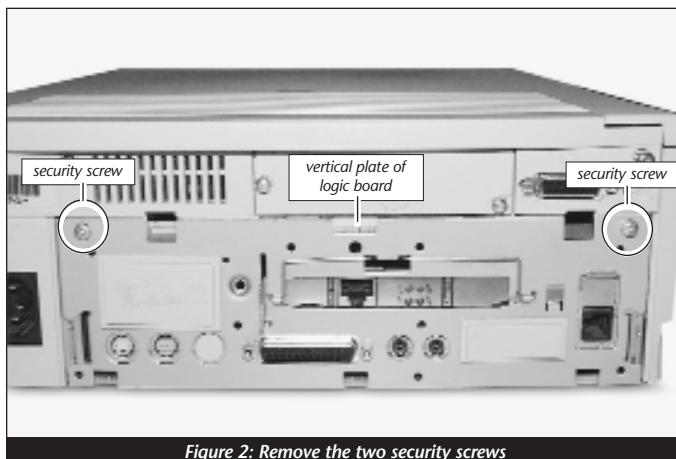


Figure 2: Remove the two security screws

6. Swing the wire handle out and away from its original position and slide the logic board out of the computer (**Figure 3**). Set the logic board aside.

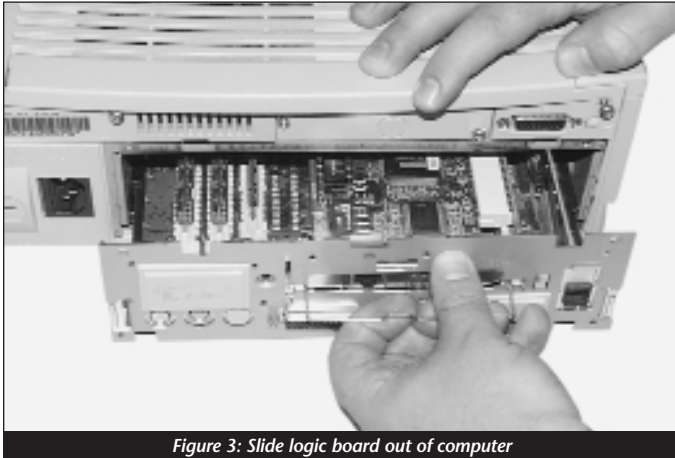


Figure 3: Slide logic board out of computer

7. Unpack everything you will need from the packaging box that contains the Crescendo/L2 card. Close the box. The box will be used as a relatively soft installation surface to protect the components underneath the logic board.
8. Place the logic board on the box (**Figure 4**).

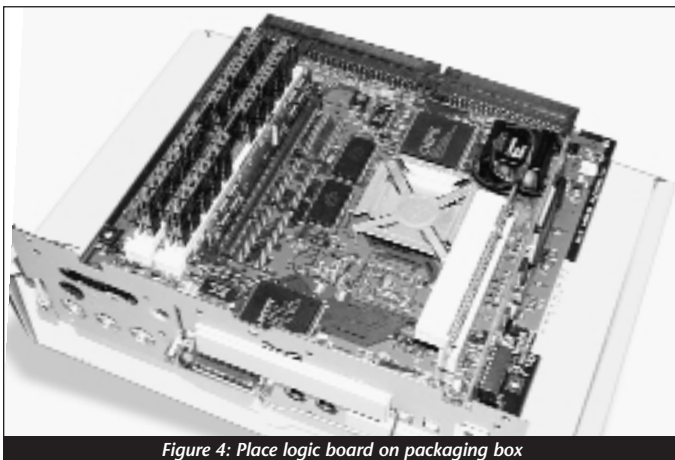
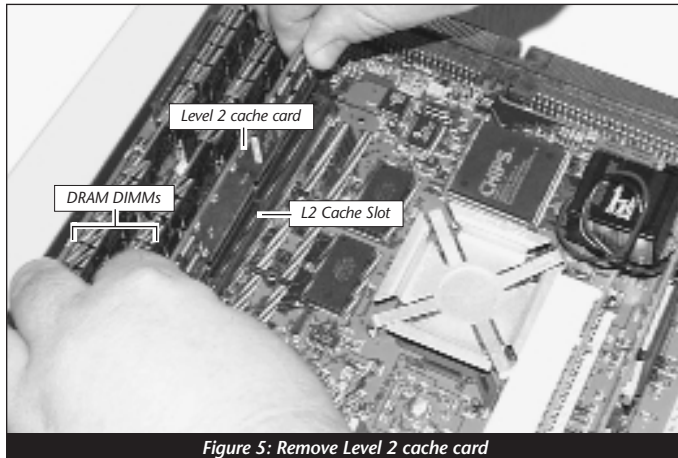


Figure 4: Place logic board on packaging box

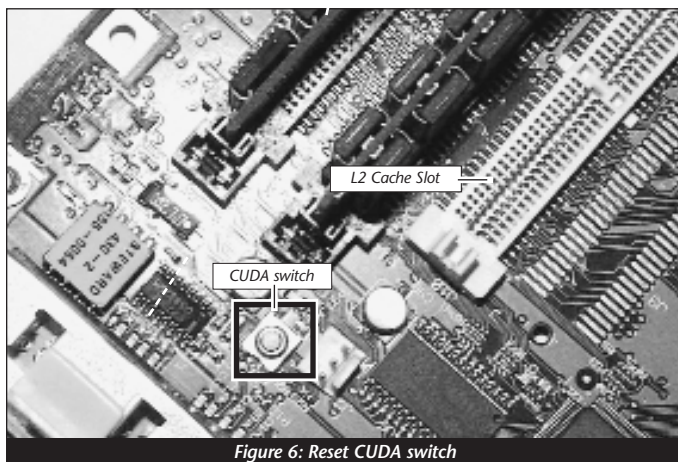
Remove Level 2 Cache Card

If installed, remove the Level 2 cache card located next to two larger slots that contain the DRAM (memory) DIMMs (*Figure 5*).



Reset CUDA Switch

Reset the CUDA switch on the logic board (*Figure 6*). It is located directly next to the L2 Cache Slot. Resetting this switch ensures that a processor upgrade card you installed into your computer is recognized at the next startup.



Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package making sure to handle the card by the edges (*Figure 7*). Your card may differ from what is pictured below.

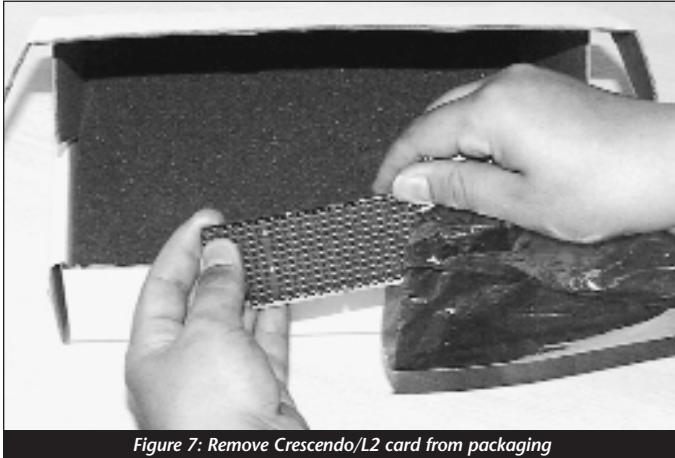


Figure 7: Remove Crescendo/L2 card from packaging

2. Install the Crescendo/L2 card directly into the L2 Cache Slot (*Figure 8*). Firmly press down until the card is completely seated.

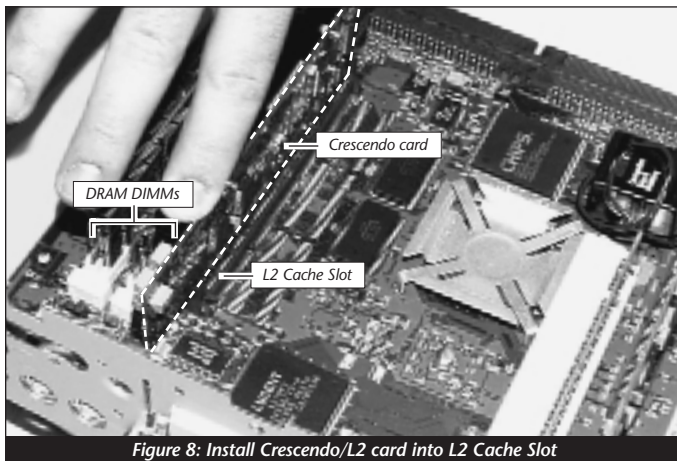
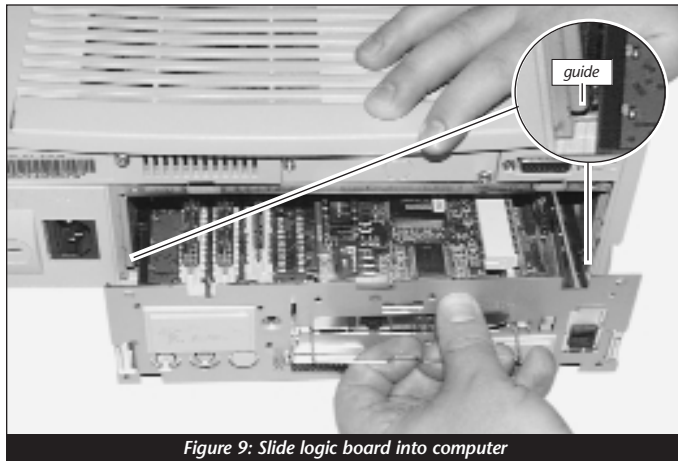


Figure 8: Install Crescendo/L2 card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Reinstall Logic Board Into Computer

1. Slide the logic board into the computer (*Figure 9*). Make certain the logic board slides into the inner guides (*Figure 9, inset*) of the computer's case.



2. Raise and secure the wire handle. Replace and tighten the two security screws and replace the back panel (*Figure 10*).



3. Return your Power Macintosh to your computing area and reconnect the power and peripheral cables to the computer.
4. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

POWER MACINTOSH 6400, 6500, AND PERFORMA 64XX

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into Power Macintosh 6400, 6500, and Performa 64XX computers.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium head Phillips screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove logic board from computer
- 5) If installed, remove Level 2 cache card
- 6) Reset CUDA switch on logic board
- 7) Install Crescendo/L2 card into L2 Cache Slot
- 8) Reinstall logic board into computer
- 9) Affix the *Powered by Sonnet* label to front of computer
- 10) Turn on your newly upgraded computer
- 11) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

Power Macintosh 6400 and 6500 Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.

3. Open your Power Macintosh by first removing the two security screws (**Figure 1**) on the back of the computer with a medium Phillips screwdriver.



Figure 1: Remove the two security screws

4. Prior to removing the logic board, touch any metal on the vertical plate (**Figure 2**) to discharge any potential damaging static electricity. Firmly grasp the two protruding plastic tabs (**Figure 2**) on the vertical plate and slide the logic board out of the computer.

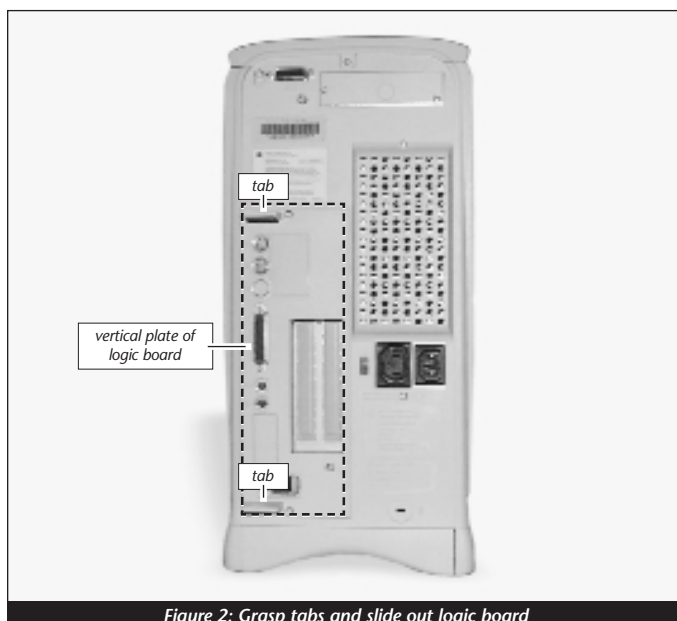


Figure 2: Grasp tabs and slide out logic board

5. Note the small metal tab protruding on the underside of the logic board (**Figure 3**). Take care not to deform it during the installation process.

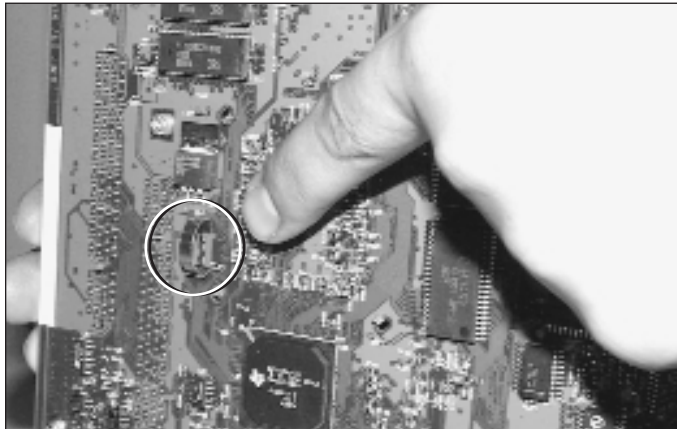


Figure 3: Take care not to bend the metal tab on underside of the logic board

6. Unpack everything you will need from the packaging box that contains the Crescendo/L2 card. Close the box. The box will be used as a relatively soft installation surface to protect the components underneath the logic board.
7. Place the logic board on the box (**Figure 4**).

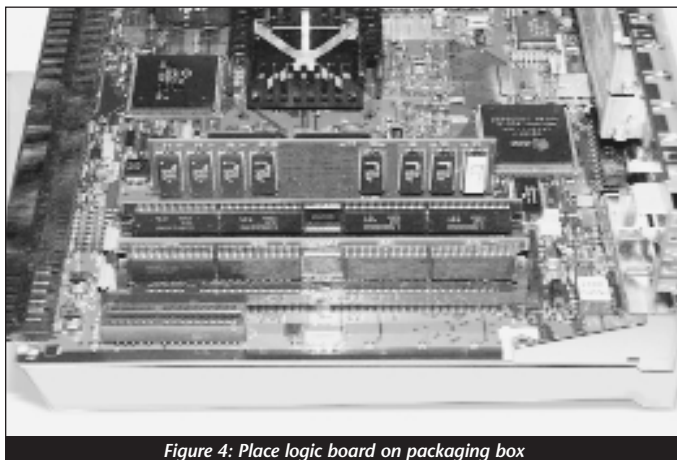


Figure 4: Place logic board on packaging box

Remove Level 2 Cache Card

Remove the Level 2 cache card. It is located next to the two larger slots that contain the DRAM (memory) DIMMs (*Figure 5*).

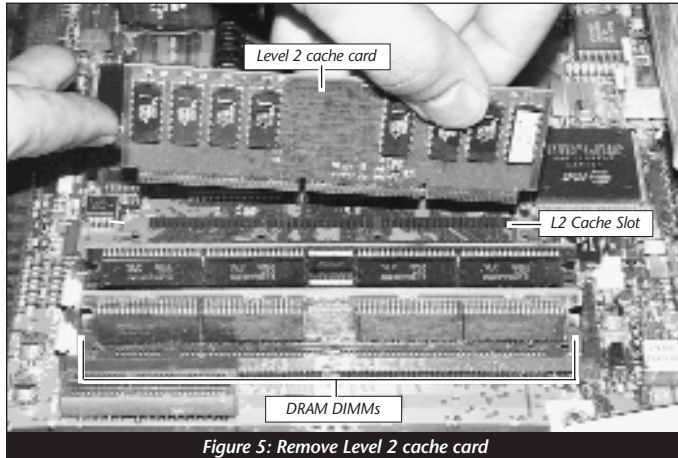


Figure 5: Remove Level 2 cache card

Reset CUDA Switch

Reset the CUDA switch on the logic board (*Figure 6*). It is located directly next to the top DRAM DIMM. Resetting this switch helps ensure that a processor upgrade card installed into your computer is recognized at the next startup.

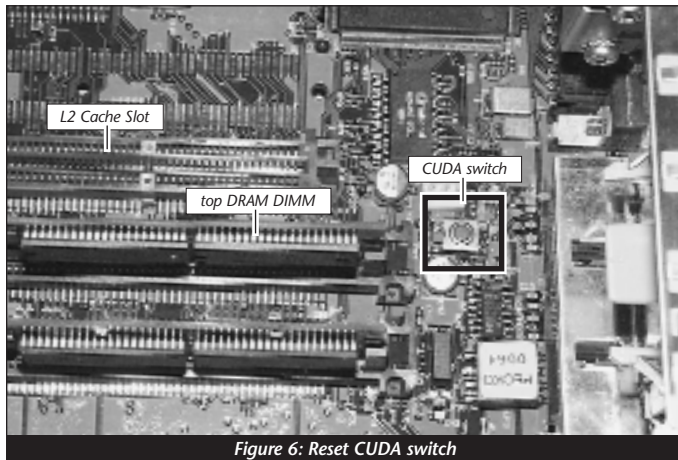
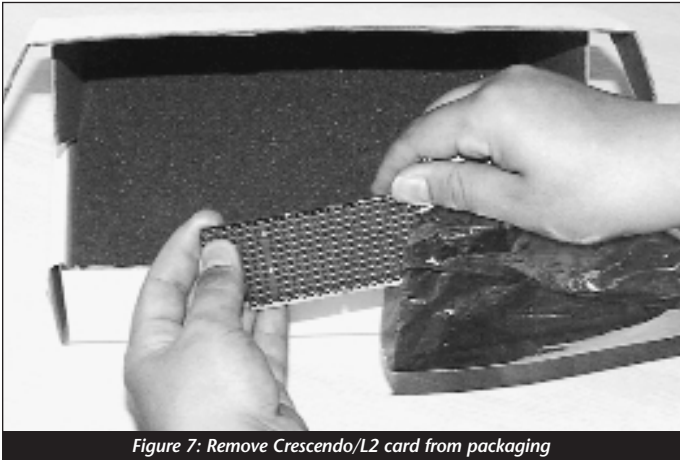


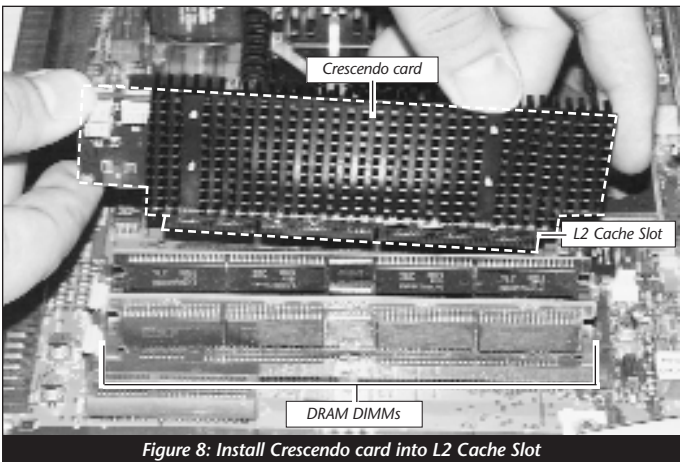
Figure 6: Reset CUDA switch

Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package making sure to handle the card by the edges (*Figure 7*). Your card may differ from what is pictured below.



2. Install the Crescendo/L2 card into the L2 Cache Slot (*Figure 8*). **Firmly** press down until the card is completely seated. (Note: The heatsink may touch a wide DRAM DIMM, but this will cause no harm.)



3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Reinstall Logic Board Into Computer

1. Slide the logic board into the computer.
2. Replace the two security screws on the back of the case (*Figure 9*).



Figure 9: Slide logic board into computer and replace security screws

3. Return your Power Macintosh to your computing area and reconnect the power and peripheral cables to the computer.
4. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

20TH ANNIVERSARY MACINTOSH

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into a 20th Anniversary Macintosh computer.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove back cover from computer
- 5) If installed, remove Level 2 cache card
- 6) Install Crescendo/L2 card into L2 Cache Slot
- 7) Replace back cover onto computer
- 8) Affix the *Powered by Sonnet* label to front of computer
- 9) Turn on your newly upgraded computer

For more complete instructions, follow the installation procedure outlined in the pages that follow.

20th Anniversary Macintosh Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.

2. Open your computer as follows:

- Thin-profile cover – Push the two latches in at the bottom of the cover and lift up.
- Larger expansion cover – Push up at the bottom of the cover and lift it away from the computer (*Figure 1*).

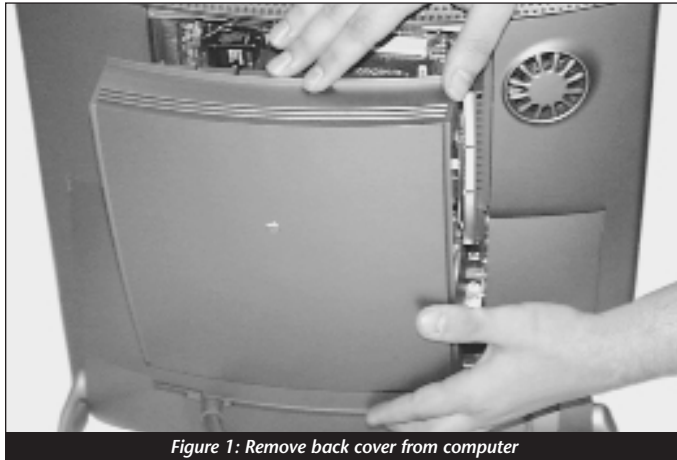


Figure 1: Remove back cover from computer

3. Touch any metal on the back of the computer to discharge any potentially damaging static electricity.

Remove the Level 2 Cache Card

Remove the Level 2 cache card. It is located directly above the DRAM (memory) DIMM slots and DAV connector (*Figure 2*).

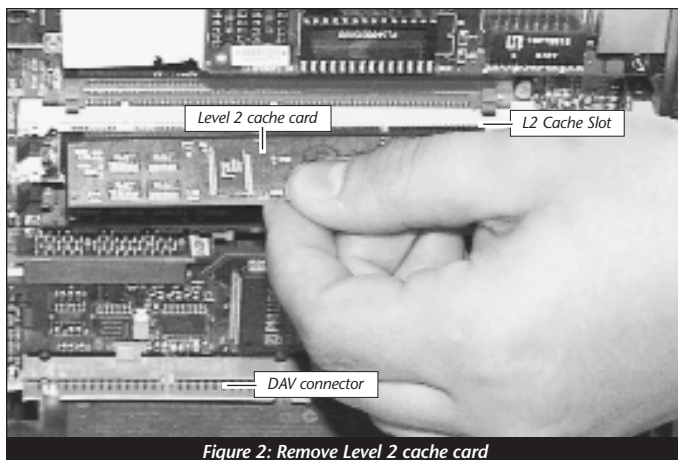


Figure 2: Remove Level 2 cache card

Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package making sure to handle the card by the edges (*Figure 3*). Your card may differ from what is pictured below.

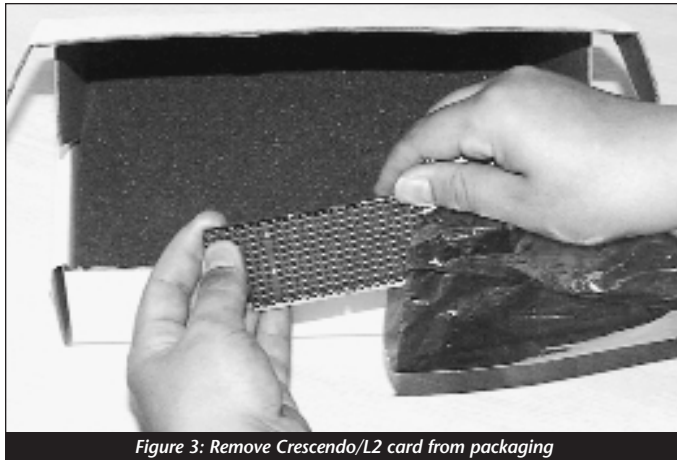


Figure 3: Remove Crescendo/L2 card from packaging

2. Install the Crescendo/L2 card into the L2 Cache Slot (*Figure 4*). **Firmly** press down until the card is completely seated. (Note: The heatsink may touch a wide DRAM DIMM, but this will cause no harm.)

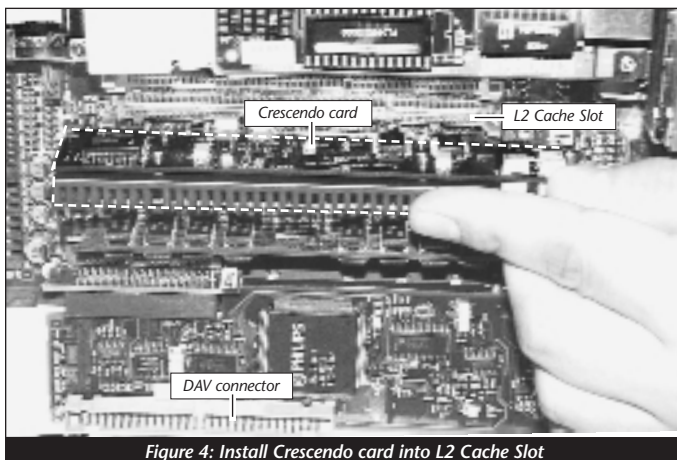


Figure 4: Install Crescendo card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Replace Back Cover Onto Computer

4. Replace the cover onto the computer using the larger expansion cover (*Figure 5, 6*).

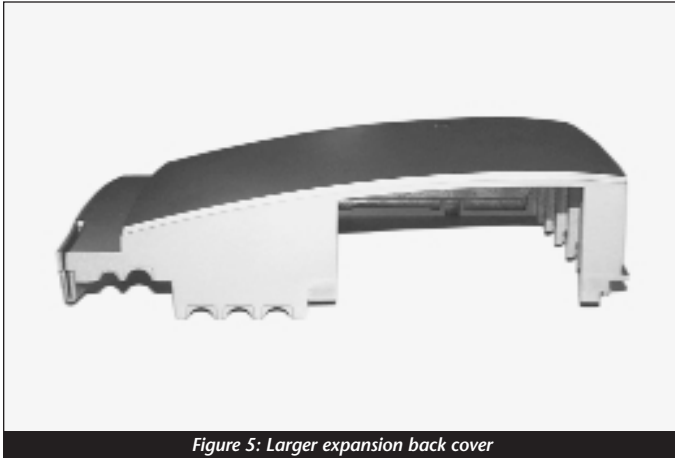


Figure 5: Larger expansion back cover

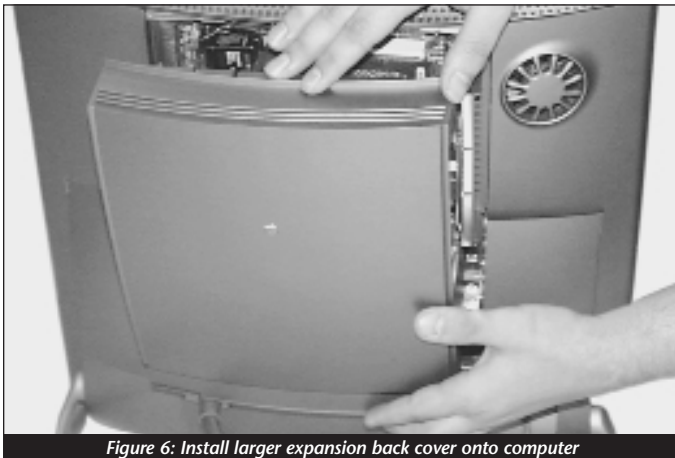


Figure 6: Install larger expansion back cover onto computer

5. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into PowerBase Desktop computers.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium flatblade screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove case cover from computer
- 5) If installed, remove Level 2 cache card
- 6) Reset CUDA switch on logic board
- 7) Install Crescendo/L2 card into L2 Cache Slot
- 8) Replace case cover onto computer
- 9) Affix the *Powered by Sonnet* label to front of computer
- 10) Turn on your newly upgraded computer
- 11) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

PowerBase Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

The PowerBase features a low profile desktop or mini tower case design. For the purpose of these instructions, a universal installation procedure of the Crescendo processor upgrade card is outlined that applies to all PCI-based Power Computing computers. For hardware details on your particular computer model, please refer to your Power Computing user's guide.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the "Recommended Installation" to "Customized installation." The *Select Mac OS 9 Features to Install* window will appear shortly. Change "Recommended Installation" to "Universal Installation" from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with "Easy Install" selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select "Custom Install" from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your PowerBase. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your PowerBase by first loosening the security screws (**Figure 1**) on the back of the case with a medium head flatblade screwdriver.

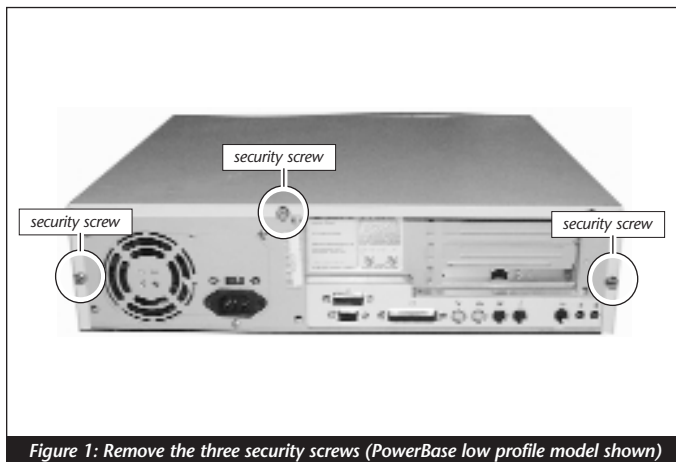


Figure 1: Remove the three security screws (PowerBase low profile model shown)

4. Gently slide the case cover off the computer (**Figure 2**).

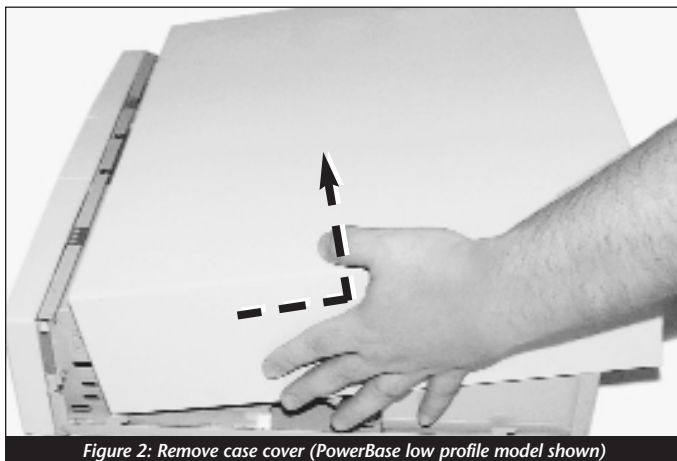
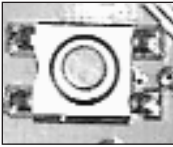


Figure 2: Remove case cover (PowerBase low profile model shown)

Remove Level 2 Cache Card

1. Identify the internal components of your PowerBase. Touch the metal shielding of the internal assembly (that houses the floppy and hard disk drives) to discharge any potential damaging static electricity.
2. If installed, remove the Level 2 cache card from the L2 Cache Slot (*Figure 3-Label A*).

Reset CUDA Switch



Reset the CUDA switch on the logic board. It is located directly next to the floppy disk drive connector, next to the L2 Cache Card Slot (*Figure 3-Label B*). Resetting this switch ensures that a processor upgrade card installed into your computer is recognized at the next startup.

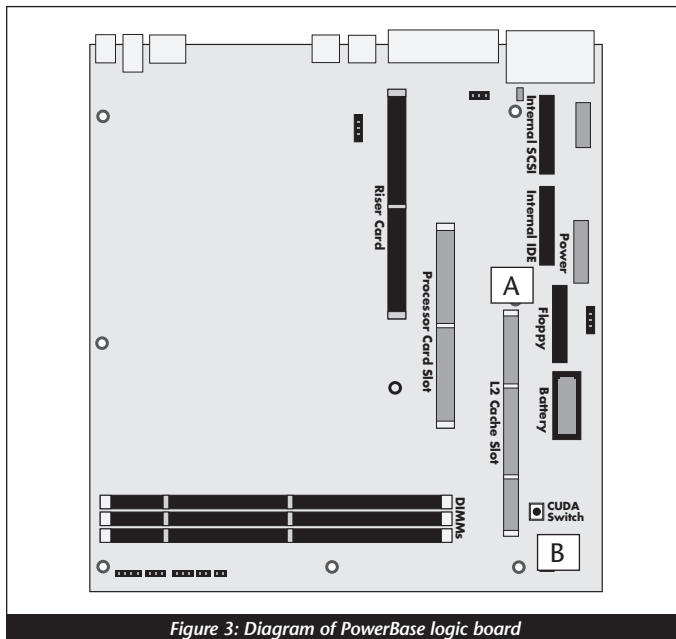


Figure 3: Diagram of PowerBase logic board

Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo card from the anti-static package making sure to handle the card by the edges (*Figure 4*). Your card may differ from what is pictured below.

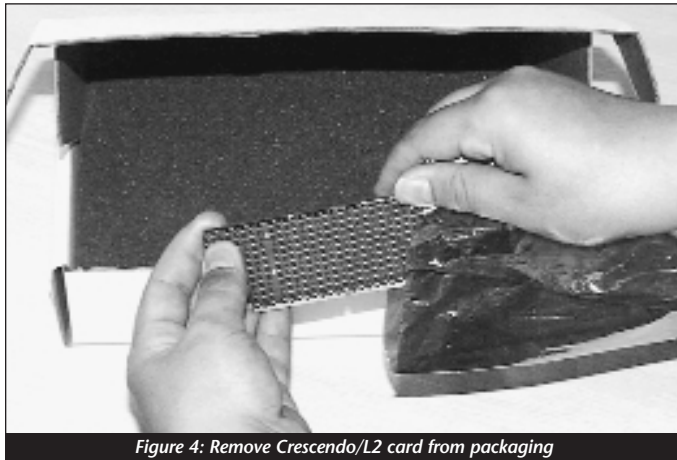


Figure 4: Remove Crescendo/L2 card from packaging

2. Install the Crescendo/L2 card into the L2 Cache Slot (*Figure 5*). Firmly press down until the card is completely seated.

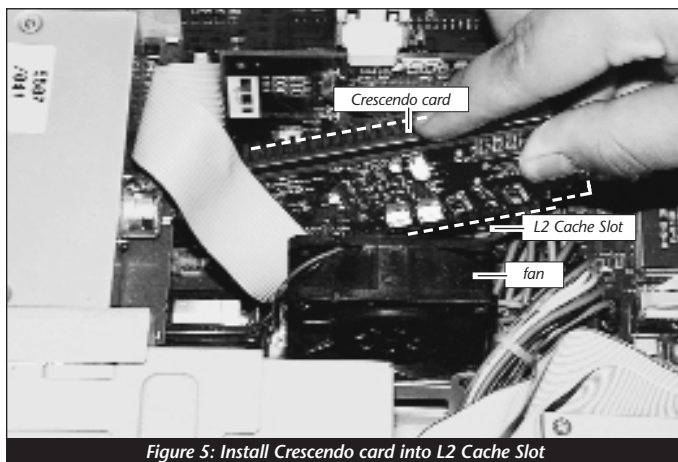
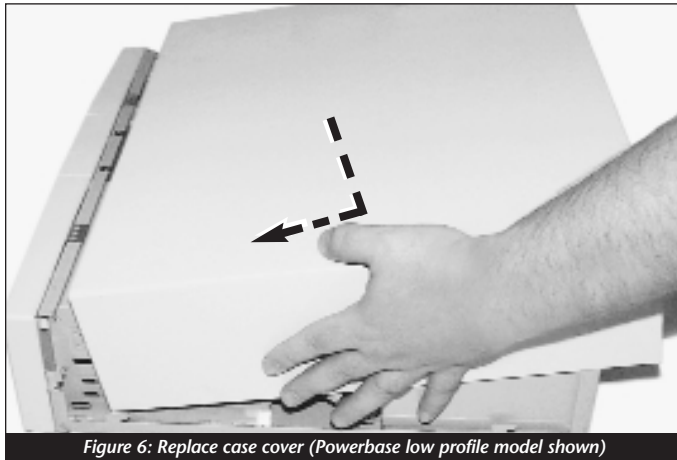


Figure 5: Install Crescendo card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Replace Case Cover Onto Computer

1. Replace the cover onto the computer (*Figure 6*).



2. Replace the security screws (*Figure 7*).



3. Return your PowerBase to your computing area and reconnect the power and peripheral cables to the computer.
4. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

STARMAX 3000

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into a StarMax 3000 computer.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium head flatblade screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Remove case cover from computer
- 5) If installed, remove Level 2 cache card
- 5) Reset CUDA switch on logic board
- 6) Install Crescendo/L2 card into L2 Cache Slot
- 7) Replace case cover onto computer
- 8) Affix the *Powered by Sonnet* label to front of computer
- 9) Turn on your newly upgraded computer
- 10) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

StarMax 3000 Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Remove Case Cover From Computer

1. Shut down your StarMax. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your StarMax computer by first loosening the four security screws (*Figure 1*) on the back of the case with a medium flatblade screwdriver.

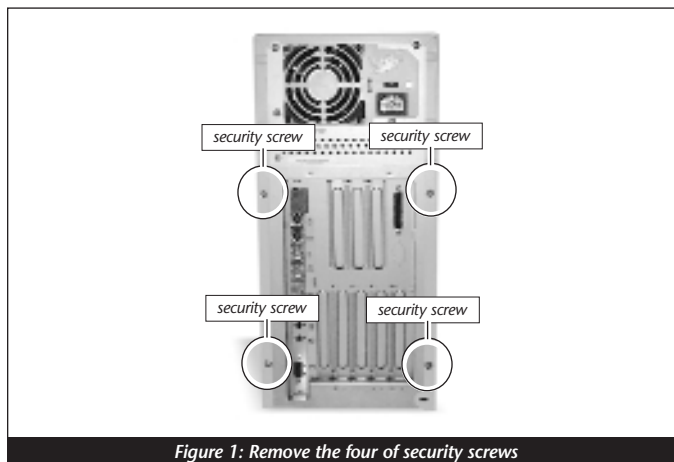


Figure 1: Remove the four of security screws

4. Gently lift the case cover away from the computer (*Figure 2*).

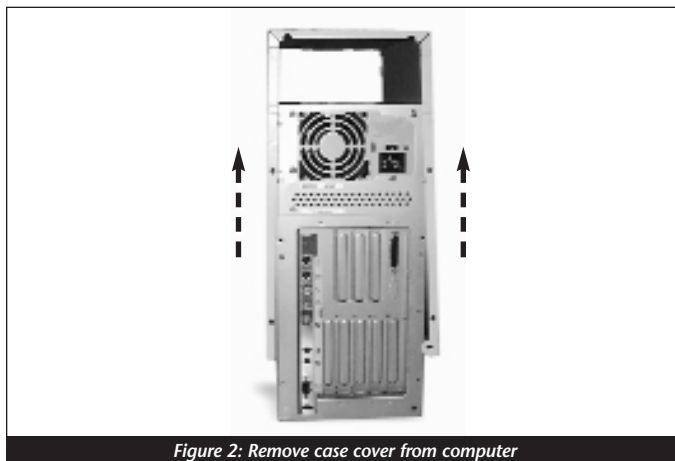
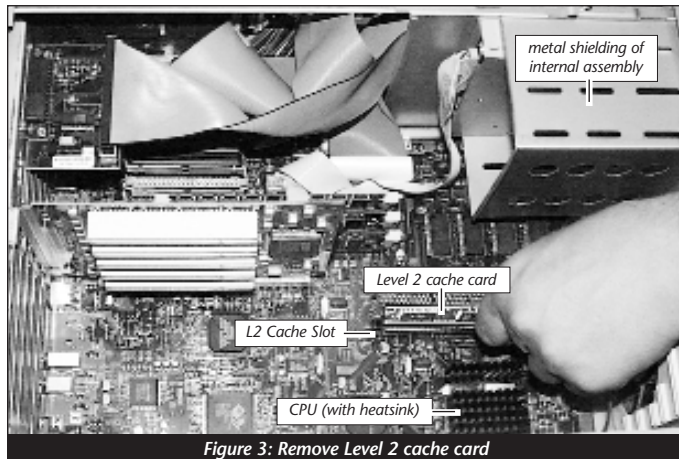


Figure 2: Remove case cover from computer

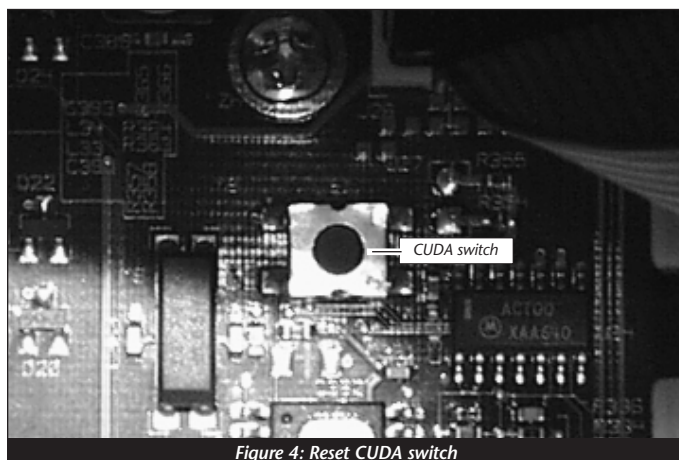
Remove Level 2 Cache Card

1. Identify the internal components of your StarMax. Touch the metal shielding (*Figure 3*) of the internal assembly (that houses the floppy and hard disk drives) to discharge any potential damaging static electricity.
2. If installed, remove the Level 2 cache card located between the CPU card and the internal fan of the computer (*Figure 3*).



Reset CUDA Switch

Reset the CUDA switch (*Figure 4*) on the logic board. It looks like a miniature doorbell and is usually located toward the rear of the computer next to the DRAM (memory) DIMM slots. Resetting this switch ensures that a processor upgrade card installed into your computer is recognized at the next startup.



Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package making sure to handle the card by the edges (*Figure 5*). Your card may differ from what is pictured below.

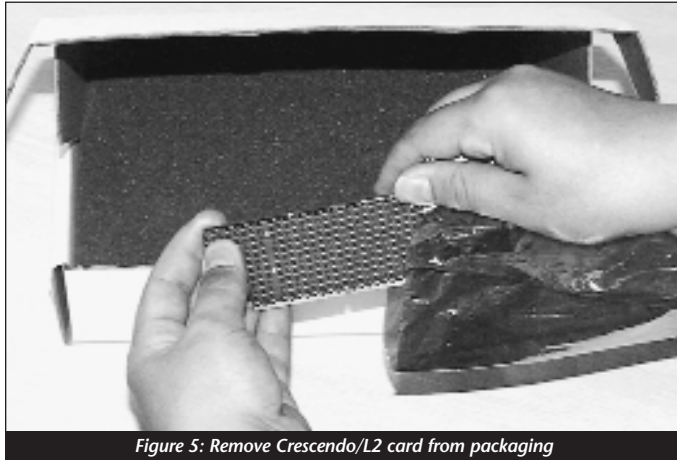


Figure 5: Remove Crescendo/L2 card from packaging

2. Align the Crescendo/L2 card over the L2 Cache Slot (*Figure 6*). Gently press down until the card is firmly seated.

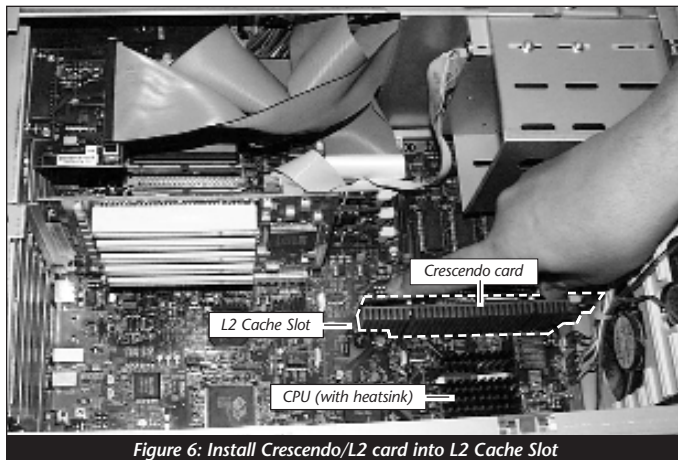


Figure 6: Install Crescendo/L2 card into L2 Cache Slot

3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Replace Case Cover Onto Computer

1. Replace the cover onto the computer and replace the four security screws (*Figure 7*).

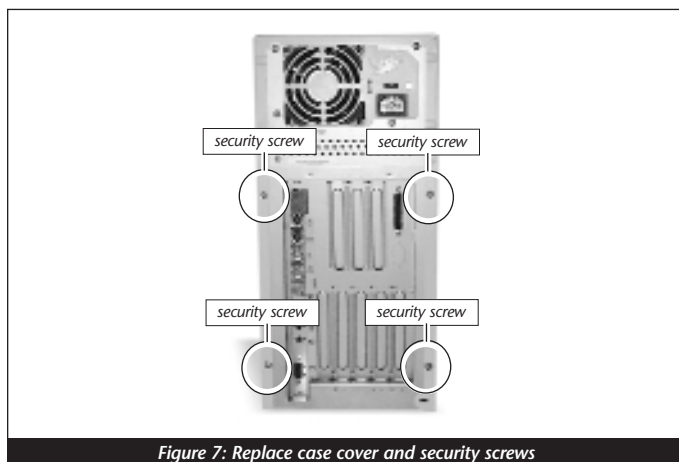


Figure 7: Replace case cover and security screws

2. Return your StarMax to your computing area and reconnect the power and peripheral cables to the computer.
3. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

STARMAX 4000, 5000, AND 5500

This chapter contains instructions for installing Crescendo/L2 processor upgrade cards into a StarMax 4000, 5000, and 5500 computer.

System Compatibility

At this printing, the Crescendo/L2 processor upgrade cards are compatible with the latest Mac OS from Apple. For up-to-date Mac OS compatibility, check our website.

You Should Have

The following items should be included in your product package:

- Crescendo/L2 processor upgrade card
- Crescendo/Encore Install diskette
- Installation manual
- *Powered by Sonnet* label

For the installation you will also require:

- Medium head flatblade screwdriver

Installation Overview

This overview is intended for those with prior experience installing Sonnet upgrade products or Macintosh hardware. However, we strongly recommend following the full installation instructions if this is your first installation of this hardware.

Installing the Crescendo/L2 takes a few easy steps:

- 1) Install Mac OS 9 (if upgrading as part of this installation)
- 2) Install Sonnet software
- 3) Shut down computer
- 4) Install Sonnet software and turn off computer
- 5) Remove case cover from computer
- 6) If installed, remove Level 2 cache card
- 7) Reset CUDA switch on logic board
- 8) Install Crescendo/L2 card into L2 Cache Slot
- 9) Replace case cover onto computer
- 10) Affix the *Powered by Sonnet* label to front of computer
- 11) Turn on your newly upgraded computer
- 12) Reset computer's date and time

For more complete instructions, follow the installation procedure outlined in the pages that follow.

StarMax 4000, 5000, and 5500 Crescendo/L2 Installation



Support Note: We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

Install Software

1. If you are upgrading to Mac OS 9 as part of this installation, do so now. Sonnet recommends a clean/universal install of the Mac OS. Start up your computer from the Mac OS CD and double click the Mac OS Install application. In the *Select Destination* window, click the Options button and click the Perform Clean Installation checkbox that appears in the subsequent screen. Click the Select button. Proceed through the next several screens until you reach the *Install Software* window. Click the Customize button. In the *Custom Installation and Removal* window click the pop-up menu to the right of Mac OS 9. Change the “Recommended Installation” to “Customized installation.” The *Select Mac OS 9 Features to Install* window will appear shortly. Change “Recommended Installation” to “Universal Installation” from the pop-up menu. Click OK, Start, then Continue to complete the installation. After the software is installed, quit the Mac OS Install application and restart your computer.
2. Insert the Crescendo/Encore Install diskette into the floppy disk drive. Double click the Crescendo/Encore Install icon. By default, with “Easy Install” selected from the pop-up menu, the required software will be installed into the active System Folder on the boot drive. If this is ok, click the Install button; otherwise, select “Custom Install” from the pop-up menu for more options or select another drive to install the software. The installer will install the appropriate software into the System Folder of your computer. If the installation was successful, a dialog box will appear. Click Quit to leave the installer and shut down your computer.

Shut Down and Open Computer

1. Shut down your StarMax. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your StarMax computer by first loosening the four security screws (*Figure 1*) on the back of the case with a medium flatblade screwdriver.

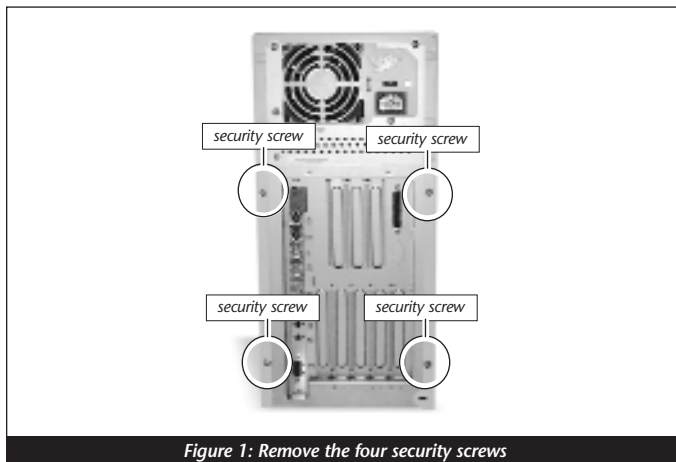


Figure 1: Remove the four security screws

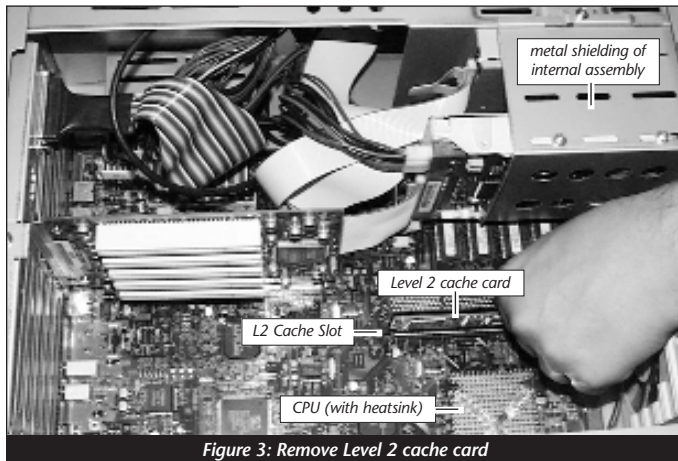
4. Gently lift the case cover away from the computer (*Figure 2*).



Figure 2: Remove case cover from computer

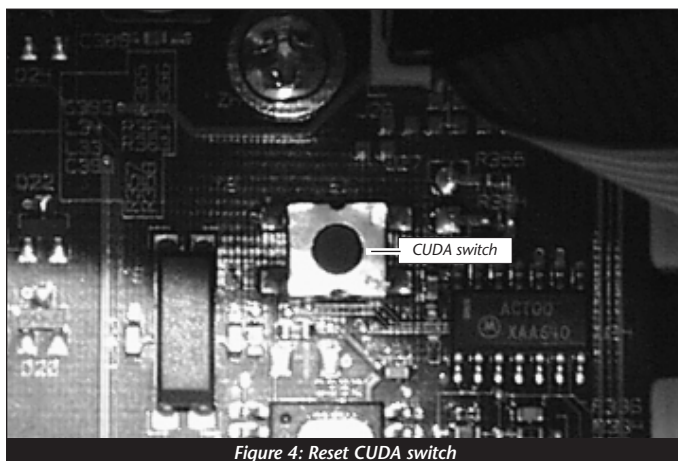
Remove Level 2 Cache Card

1. Identify the internal components of your StarMax. Touch the metal shielding (*Figure 3*) of the internal assembly (that houses the floppy and hard disk drives) to discharge any potential damaging static electricity.
2. If installed, remove the Level 2 cache card located between the CPU card and the internal fan of the computer (*Figure 3*).



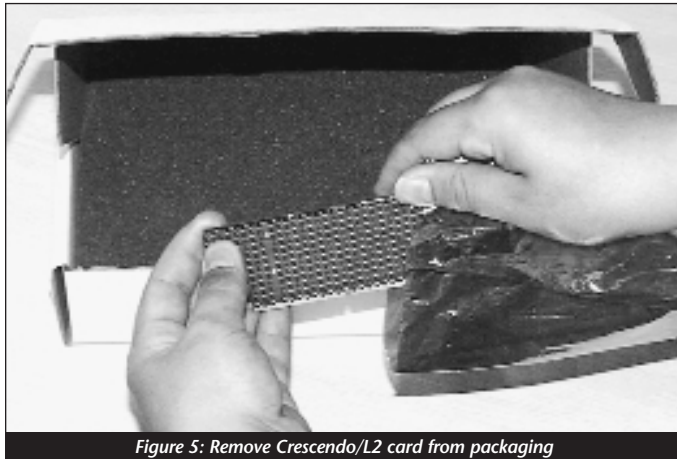
Reset CUDA Switch

Reset the CUDA switch (*Figure 4*) on the logic board. It looks like a miniature doorbell and is usually located toward the rear of the computer next to the DRAM (memory) DIMM slots. Resetting this switch ensures that a processor upgrade card installed into your computer is recognized at the next startup.

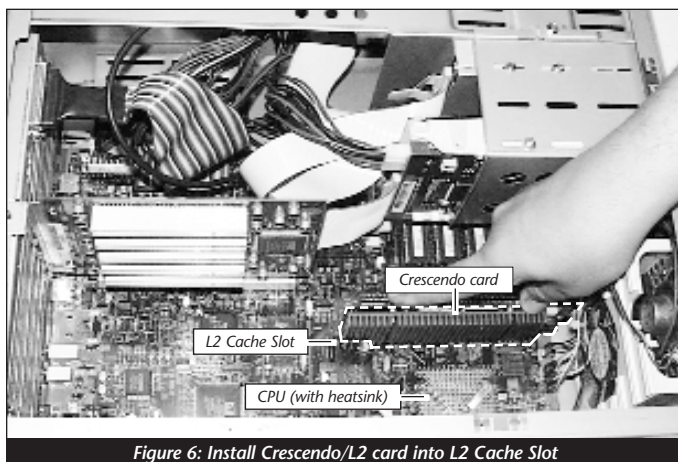


Install Crescendo/L2 Processor Upgrade Card

1. Remove the Crescendo/L2 card from the anti-static package making sure to handle the card by the edges (*Figure 5*). Your card may differ from what is pictured below.



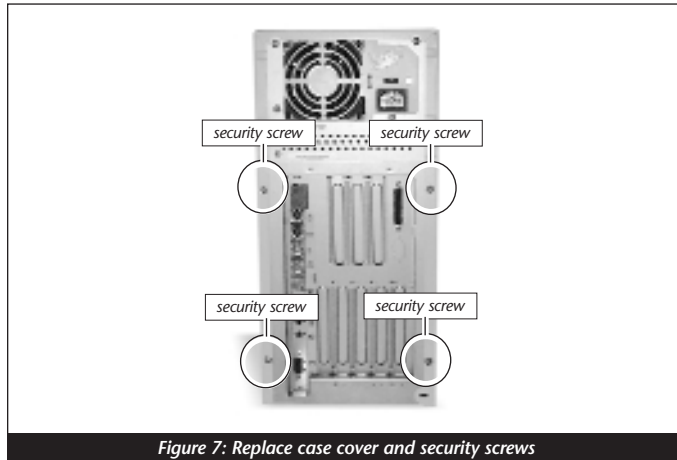
2. Install the Crescendo/L2 card by aligning the Crescendo card over the L2 Cache Slot (*Figure 6*). Gently press down until the card is firmly seated.



3. If you removed a Level 2 cache card from the computer, package it into the Crescendo's anti-static package and store it in a safe place.

Replace Case Cover Onto Computer

1. Replace the cover onto the computer and replace the four security screws (*Figure 7*).



2. Return your StarMax to your computing area and reconnect the power and peripheral cables to the computer.
3. Affix the *Powered by Sonnet* label to the front of your computer.

Turn On Computer

1. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.
2. Due to resetting the CUDA switch, some Mac OS preference files have been reset to their default settings. You will need to reset the Date & Time control panel as well as your preference settings for the Mouse and Keyboard control panels.

LEARNING ABOUT THE SOFTWARE

Depending on your software and Macintosh model, Sonnet's software installer may perform the following software installation on your computer:

Sonnet Processor Upgrade Extension



The Sonnet Processor Upgrade Extension is needed to attain maximum performance of your G3 or G4 upgrade card. It is installed into your Extensions folder.

Sonnet G4 Enabler 9



The Sonnet G4 Enabler 9 is needed only for G4 upgrade cards running Mac OS 9. This system enabler activates the Velocity Engine (AltiVec instructions). It is installed into your System folder.

Nonvolatile RAM Patch



The Nonvolatile RAM patch allows a Power Macintosh 73/75/76/85/86/95/9600 to use a G3 or G4 upgrade card.

G4 Firmware Patch



The G4 Firmware Patch allows a Power Macintosh G3 Blue & White to use a G4 processor upgrade card.

G4 Firmware Patch Remover



The G4 Firmware Patch Remover deinstalls the G4 Firmware patch on a Power Macintosh G3 Blue & White.

Metronome

Metronome is a software utility that provides information about the new processor card. This utility is placed into the Apple Menu Items Folder. It provides useful information to you and our Customer Service staff should you need to call us for any reason.

Metronome displays bus/processor speeds. It also shows secondary cache size and speed and the temperature for PowerPC processor (Figure 1).

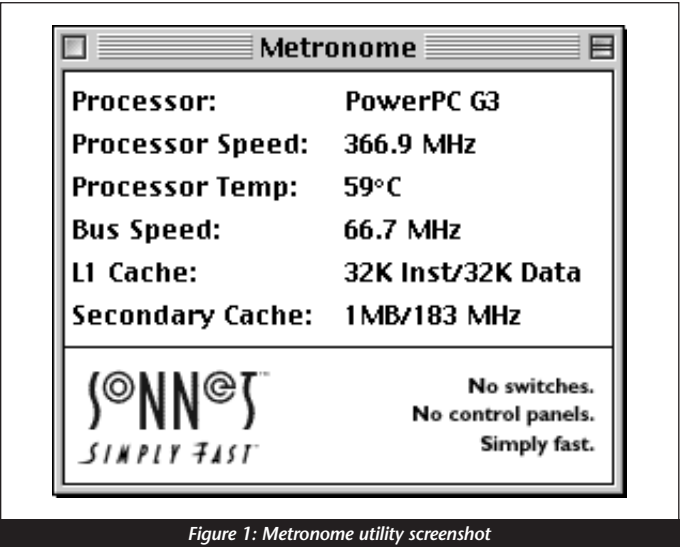


Figure 1: Metronome utility screenshot

TROUBLESHOOTING GUIDE

Problem: Computer loads extensions without freezing but Crescendo extension has a red "X" through it.

Possible Solutions: Crescendo/L2 card is not completely seated in the L2 Cache Slot. **Firmly** press down on the card until it is fully seated in the slot.

Problem: Computer freezes at extension.

Possible Solutions:

- 1) Try unplugging the Crescendo card and reseating it in the L2 Cache Slot.
- 2) You may have a conflict with an extension that loads early and changes low level processor control registers. To identify which extension is causing a problem, do the following:
 - Hold down the SHIFT key and restart your computer until the start-up screen states: "Extensions Turned Off." This procedure will disable the Crescendo card and your system's extensions.
 - If you have RAM Doubler installed, insert the RAM Doubler diskette into the floppy disk drive and run the RAM Doubler deinstaller program.
 - Create a new folder on the desktop called *Disabled Extensions Folder*. Except for the Crescendo extension, move software extensions like Disk Doubler, Speed Doubler, and virus protection software from the Extensions Folder (located inside the System Folder) to the Disabled Extensions Folder on the desktop.
 - Restart your computer.
 - If the computer boots normally, reinstall an extension from the Disabled Extensions Folder to the Extensions Folder and restart your computer. Do this step with each subsequent extension in the Disabled Extensions Folder until you find the problematic extension. Update the file with a newer version or remove it from your system.

Problem: Computer does not seem to run any faster.

Possible

Solutions: Rebuild the Desktop file (an invisible resource file where the computer stores important system information). Restart your computer and hold down the Command-Option keys until the Desktop rebuild dialog box appears; click 'OK'.

Problem: Computer freezes at desktop or at random.

Possible

Solutions: This may be due to the hard disk driver being old, corrupted, or incompatible with the G3 processor. You may need to:

- 1) Update hard disk drivers to current version.
- 2) Rebuild the Desktop file (an invisible resource file where the computer stores important system information). Restart your computer and hold down the Command-Option keys until the Desktop rebuild dialog box appears; click 'OK'.
- 3) Zap the PRAM (an area of the Mac's memory that stores such information as preference settings). Restart your computer and hold down the Command-Option-P-R keys until the computer chimes three times. After the computer finishes booting, open the Date & Time control panel from the Control Panels Folder (located inside the Systems Folder) and reset the date and time. You may also want to reset your preference settings for the Mouse and Keyboard control panels.
- 4) If there is an internal 28.8K GeoPort Express modem in your computer, it is unfortunately not compatible with the G3 processor. The internal modem and its supporting software will need to be removed; however, an external modem works fine.

WARRANTY

Sonnet Technologies, Inc. warrants that its product(s) shall be free from defects in materials and workmanship for a period of three years following the date of original purchase. Sonnet's liability under this warranty shall be limited, at its option, to repairing or replacing product(s) shown to be defective either in materials or workmanship. The sole and exclusive remedy under this warranty shall be such repair or replacement.

A claim of defective materials or workmanship in product(s) shall be allowed only when it is submitted to Sonnet within the warranty period. No claim shall be allowed in respect to product(s) which have been altered, neglected, damaged or stored in any manner which adversely affects them. No product(s) shall be returned to Sonnet for any reason without a return authorization from Sonnet. You bear the responsibility for shipping product(s) to Sonnet within 30 days of authorization and paying for associated shipping and insurance costs. Sonnet will pay the cost to ship repaired or replaced product(s) back to you.

This warranty shall also apply to product(s) that replace defective product(s) but only for the original warranty period. The warranty period shall not be extended by reason of defect, or any period of time during which the product(s) are not available to you because of defects, without the express written consent of Sonnet.

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CUSTOMER SERVICE

The Sonnet website located at <http://www.sonnettech.com> has the most current support information and technical updates.

Before you call Sonnet Customer Service please

- Check our website for the latest updates and online support files
- Check your manual for helpful information

When you call Sonnet Customer Service, have the following information available so our technical support staff can better assist you:

- Product name
- Serial number
- Date of purchase
- Place of purchase
- Computer type and model
- Operating system and version

If further assistance is needed, please contact us at:

Website: www.sonnettech.com

Sonnet Technical Support:

Tel: 1-949-261-1426 (Monday–Friday, 8 am–5 pm Pacific Time)

Fax: 1-949-261-2461

E-mail: support@sonnettech.com